Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1.-3. (Canceled)

4. (Previously Presented) The method for fabricating a semiconductor device of Claim 17, 18, 25, 26, 27 or 28,

wherein said semiconductor layer has a face-centered cubic crystal structure,

said semiconductor-metal compound layer has a face-centered cubic crystal structure, and

said compound layer is amorphous.

5. (Previously Presented) The method for fabricating a semiconductor device of Claim 17, 18, 25, 26, 27 or 28,

wherein said particle energy beam includes a nonmetal element.

6. (Previously Presented) The method for fabricating a semiconductor device of Claim 17, 18, 25, 26, 27 or 28,

wherein said semiconductor layer has a face-centered cubic crystal structure, and

said semiconductor-metal compound layer has a face-centered cubic crystal structure.

7. (Previously Presented) The method for fabricating a semiconductor device of Claim 17, 18, 25, 26, 27 or 28,

wherein said semiconductor layer has a diamond or zinc blende crystal structure, and

said semiconductor-metal compound layer has a calcium fluoride crystal structure.

8. (Previously Presented) The method for fabricating a semiconductor device of Claim 17, 18, 25, 26, 27 or 28,

wherein said semiconductor layer is a silicon layer,

said nonmetal element is oxygen,

said metal film is a cobalt film, and

said semiconductor-metal compound layer is a cobalt silicide layer.

9.-16. (Canceled)

17. (Previously Presented) A method for fabricating a semiconductor device comprising the steps of:

(a) forming a compound layer including a semiconductor element and a nonmetal element on a semiconductor layer;

(b) distributing said nonmetal element included in said compound layer in the region in the vicinity of the surface portion of said semiconductor layer through recoil by irradiating said compound layer with a particle energy beam;

(c) after the step (b), removing said compound layer;

(d) after the step (c), depositing a metal film on said semiconductor layer; and

(e) after the step (d), epitaxially growing a semiconductor-metal compound layer in the surface portion of said semiconductor layer by causing a reaction between an element included in said semiconductor layer and a metal included in said metal film through annealing carried out on said metal film,

wherein said region in the vicinity of the surface portion of said semiconductor layer is within a depth of 0.5 nm to 5 nm from the surface of the semiconductor layer, and

a dosage of said nonmetal element per unit area is between 4×10^{14} cm^{-2} and 4×10^{15} cm^{-2}.

18. (Currently Amended) A method for fabricating a semiconductor device comprising the steps of:

(a) forming a compound layer including a semiconductor element and a nonmetal element on a semiconductor layer;

(b) distributing said nonmetal element included in said compound layer in the region in the vicinity of the surface portion of said semiconductor layer through recoil and removing said compound layer by irradiating said compound layer with a particle energy beam;

(c) after the step (b), depositing a metal film on said semiconductor layer; and

(d) after the step (c), epitaxially growing a semiconductor-metal compound layer in the surface portion of said semiconductor layer by causing a reaction between an element included in said semiconductor layer and a metal included in said metal film through annealing carried out on said metal film,

wherein said region in the vicinity of the surface portion of said semiconductor layer is within a depth of 0.5 nm to 5 nm from the surface of the semiconductor layer, and

a dosage of said nonmetal element per unit area is between 4×10^{14} cm^{-2} and 4×10^{15} ~~cm^{-2}~~ $\underline{cm^{-2}}$.

19. (Previously Presented) The method for fabricating a semiconductor device of Claim 17, 18, 25, 26, 27 or 28,

wherein said nonmetal element is an oxygen element, a nitrogen element or a fluorine element.

20. (Cancelled).

21. (Currently Amended) A method for fabricating a semiconductor device comprising the steps of:

distributing an oxygen element in a region in the vicinity of a surface portion of a semiconductor layer;

depositing a metal film on said semiconductor layer; and

epitaxially growing a semiconductor-metal compound layer in the surface portion of said semiconductor layer by causing a reaction between an element included in said semiconductor layer and a metal included in said metal film through annealing carried out on said metal film;

wherein said region in the vicinity of the surface portion of said semiconductor layer is within a depth of 0.5 nm to 5 nm from the surface of the semiconductor layer; and

a dosage of said nonmetal element per unit area is between [[4 X]] 4 x 10^{14} cm^{-2} and 4 x 10^{15} cm^{-2}.

22. (Currently Amended) A method for fabricating a semiconductor device comprising the steps of:

distributing an oxygen element in a region in the vicinity of a surface portion of a semiconductor layer;

depositing a metal film on said semiconductor layer; and

epitaxially growing a semiconductor-metal compound layer in the surface portion of said semiconductor layer by causing a reaction between an element included in said semiconductor layer and a metal included in said metal film through annealing carried out on said metal film;

wherein said region in the vicinity of the surface portion of said semiconductor layer is within a depth of 0.5 nm to 5 nm from the surface of the semiconductor layer, and

a distribution of said nonmetal element per unit area is between [[4 X]] 4 x $10^{14}cm^{-2}$ and 4 x $10^{15}cm^{-2}$.

23. (Currently Amended) A method for fabricating a semiconductor device comprising the steps of:

distributing an oxygen element in a region in the vicinity of a surface portion of a semiconductor layer;

depositing a metal film on said semiconductor layer; and

epitaxially growing a semiconductor-metal compound layer in the surface portion of said semiconductor layer by causing a reaction between an element included in said semiconductor layer and a metal included in said metal film through annealing carried out on said metal film;

wherein said region in the vicinity of the surface portion of said semiconductor layer is within a depth of 0.5 nm to 5 nm from the surface of the semiconductor layer, and

a concentration of said nonmetal element per unit area is between [[4 X]] 4 x $10^{14}cm^{-2}$ and 4 x $10^{15}cm^{-2}$.

24. (Previously Presented) The method for fabricating a semiconductor device of Claim 21, 22 or 23,

wherein said semiconductor layer is a silicon layer,

said metal film is a cobalt film, and

said semiconductor-metal compound layer is a cobalt silicide layer.

25. (Currently Amended) A method for fabricating a semiconductor device comprising the steps of:

(a) forming a compound layer including a semiconductor element and a nonmetal element on a semiconductor layer;

(b) distributing said nonmetal element included in said compound layer in the region in the vicinity of the surface portion of said semiconductor layer through recoil by irradiating said compound layer with a particle energy beam;

(c) after the step (b), removing said compound layer;

(d) after the step (c), depositing a metal film on said semiconductor layer; and

(e) after the step (d), epitaxially growing a semiconductor-metal compound layer in the surface portion of said semiconductor layer by causing a reaction between an element included in said semiconductor layer and a metal included in said metal film through annealing carried out on said metal film,

wherein said region in the vicinity of the surface portion of said semiconductor layer is within a depth of 0.5 nm to 5 nm from the surface of the semiconductor layer, and

a distribution of said nonmetal element per unit area is between [[4 X]] $\underline{4 \times 10^{14}}\,cm^{-2}$ and $4 \times 10^{15}\,cm^{-2}$.

26. (Currently Amended) A method for fabricating a semiconductor device comprising the steps of:

(a) forming a compound layer including a semiconductor element and a nonmetal element on a semiconductor layer;

(b) distributing said nonmetal element included in said compound layer in the region in the vicinity of the surface portion of said semiconductor layer through recoil by irradiating said compound layer with a particle energy beam;

(c) after the step (b), removing said compound layer;

(d) after the step (c), depositing a metal film on said semiconductor layer; and

(e) after the step (d), epitaxially growing a semiconductor-metal compound layer in the surface portion of said semiconductor layer by causing a reaction between an element included in said semiconductor layer and a metal included in said metal film through annealing carried out on said metal film,

wherein said region in the vicinity of the surface portion of said semiconductor layer is within a depth of 0.5 nm to 5 nm from the surface of the semiconductor layer, and

a concentration of said nonmetal element per unit area is between [[4 X]] $\underline{4 \times}$ $10^{14}cm^{-2}$ and $4 \times 10^{15}cm^{-2}$.

27. (Currently Amended) A method for fabricating a semiconductor device comprising the steps of:

(a) forming a compound layer including a semiconductor element and a nonmetal element on a semiconductor layer;

(b) distributing said nonmetal element included in said compound layer in the region in the vicinity of the surface portion of said semiconductor layer through recoil and removing said compound layer by irradiating said compound layer with a particle energy beam;

(c) after the step (b), depositing a metal film on said semiconductor layer; and

(d) after the step (c), epitaxially growing a semiconductor-metal compound layer in the surface portion of said semiconductor layer by causing a reaction between an element included in said semiconductor layer and a metal included in said metal film through annealing carried out on said metal film,

wherein said region in the vicinity of the surface portion of said semiconductor layer is within a depth of 0.5 nm to 5 nm from the surface of the semiconductor layer, and

a distribution of said nonmetal element per unit area is between [[4 X]] $\underline{4 \times}$ $10^{14}cm^{-2}$ and $4 \times 10^{15}cm^{-2}$.

28. (Currently Amended) A method for fabricating a semiconductor device comprising the steps of:

(a) forming a compound layer including a semiconductor element and a nonmetal element on a semiconductor layer;

(b) distributing said nonmetal element included in said compound layer in the region in the vicinity of the surface portion of said semiconductor layer through recoil and removing said compound layer by irradiating said compound layer with a particle energy beam;

(c) after the step (b), depositing a metal film on said semiconductor layer; and

(d) after the step (c), epitaxially growing a semiconductor-metal compound layer in the surface portion of said semiconductor layer by causing a reaction between an element included in said semiconductor layer and a metal included in said metal film through annealing carried out on said metal film,

wherein said region in the vicinity of the surface portion of said semiconductor layer is within a depth of 0.5 nm to 5 nm from the surface of the semiconductor layer, and

a concentration of said nonmetal element per unit area is between [[4 X]] $\underline{4 \times}$ $10^{14}cm^{-2}$ and $4 \times 10^{15}cm^{-2}$.